

ABSTRACT

A virtual active network architecture of proxy servers for providing streaming media data over wide area networks includes forming a hierarchical structure of proxy servers for multiplexing and delivering the live streaming media, and dynamically reconfiguring the hierarchical structure based upon user population, user distribution, usage patterns and network conditions. Separate virtual active networks sharing proxy servers in different hierarchical structures are formed for different streams of media data, and the different hierarchical structures are dynamically reconfigured independently of one another. Redistribution and consolidation of data paths through the hierarchical structures is performed by the proxy network coordinator in response to messages from the proxy servers of a hierarchical structure.